Chapter 4

FP Environmental Guidance And Safety Procedures

SECTION I – ENVIRONMENTAL CONSIDERATIONS AND STEWARDSHIP

ENVIRONMENTAL RESPONSIBILITIES

4-1. The Army environmental vision is to be a national leader in environmental and natural resource stewardship for present and future generations. The definition of stewardship is to take care of property while also caring about the rights of others. Operations must be planned without harming the environment. Good environmental stewardship lets leaders take care of soldiers and also saves resources vital to combat readiness. The purpose of the environmental protection stewardship program is to standardize environmental protection compliance with federal, state, local, and host nation laws and regulations. FM 20-400 provides guidance and information on basic environmental protection stewardship. Noncompliance with the program may result in:

- Damage to the environment and to natural resources
- Endangerment of personnel health and safety
- Severe civil or military penalties

ENVIRONMENTAL PROTECTION STEWARDSHIP GOALS AND REQUIREMENTS

4-2. The Army no longer merely complies with the laws and regulations of environmental protection stewardship. It leads in environmental protection by setting goals and requirements for its leaders. The goals of the Army's environmental stewardship protection program are:

- **Compliance.** Ensure that all Army sites and operations attain and sustain 100 percent compliance with environmental laws and regulations in a climate of changing requirements. Army sites or operations will not be subject to a notice of violation or a fine for not following host nation, local, state, or federal environmental directives.
- **Prevention.** Adopt and use integrated management approaches in all Army mission areas to reduce the volume and toxicity of all categories of environmental pollution.
- **Conservation.** Conserve, protect, and enhance environmental and cultural resources entrusted to the Army's stewardship of future generations using all practical and available means consistent with the Army mission.

4-3. The requirements of the Army's environmental stewardship protection program are:

- **Appraisal.** Require an appraisal to determine their potential environmental impacts.
- **Training.** Require all key Army decision-makers and planners to attend NEPA training.
- **Restoration.** Ensure strict compliance with all spill and release reporting, timely resource requests and allocations, and clean-up requirements of all Army contaminated sites, as quickly as resources are made available to protect human health and the environment.
- **Environmental consideration**. Ensure that all available environmental and cultural resources are incorporated early in the mission decision-making and planning process.

RESPONSIBILITIES OF PERSONNEL

4-4. Each member of the QM FP Company must comply with the environmental protection stewardship program.

4-5. The QM FP Company Commander's responsibilities include:

- Comply with all applicable environmental protection laws and regulations.
- Know the NEPA, HM, HW, HAZCOM efforts, and spill contingencies.
- Set up the unit's HM/HW management policy.
- Ensure that personnel comply with the provisions, laws, and regulations outlined in the program.
- Appoint and ensure that the ECO, the HM/HW coordinator, and senior personnel have received appropriate training.
- Ensure that all personnel who may be exposed to HM or HW when performing their duties receive training about potential hazards and relevant precautions within 90 days of assignment.
- Ensure personnel receive annual refresher training about potential hazards and relevant precautions.
- Commit subordinate leaders to environmental protection.
- Analyze the influence of the mission on the environment.

4-6. The QM FP Company Executive Officer's responsibilities include:

- Serve as the unit's ECO.
- Serve as the commander's eyes and ears for environmental protection matters.
- Conduct periodic assessment of the unit's environmental protection program and the unit's level of compliance.
- Act as liaison between the unit and the higher headquarters responsible for managing environmental protection compliance

programs and that provides information on training requirements and certifications needed by unit personnel.
- Commit subordinate leaders to environmental protection.
- Analyze the influence of the environment on the mission.

4-7. The Maintenance Officer and/or Motor Sergeant's responsibilities include:

- Serve as the unit HM/HW coordinator.
- Serve as the unit spill coordinator.
- Maintain accountability for all HM and HW.
- Ensure that HM and HW are stored and disposed of properly.
- Ensure that HM and HW spills are immediately contained and reported to the fire department and to the ECO.
- Report inoperative treatment and collection facilities (oil/grease interceptors, floor drains, catch basins, waste tanks) to the ECO.

4-8. The Section Leaders and Noncommissioned Officers' responsibilities include:

- Environmental protection in day-to-day decisions.
- Ensure soldiers are aware of the Army's environmental protection ethic.
- Train soldiers to be good environmental protection stewards.
- Environmental protection.
- Identify environmental risks associated with the tasks they and their soldiers perform.
- Plan and conduct environmental sustainability actions and training.
- Protect the environment during training and other activities.
- Analyze the influence of the environment on the mission.
- Integrate environmental considerations into unit activities.
- Train peers and soldiers to identify the environmental effects of plans, actions, and mission.
- Counsel soldiers on the importance of protecting the environment and the results of not complying with environmental laws.
- Incorporate environmental considerations into AARs.
- Report spills of HM or HW immediately.
- Provide ideas through the chain of command concerning the improvement of the unit's environmental protection program.
- Support the Army recycling program.

4-9. Soldiers' responsibilities include:

- Follow the unit's environmental protection stewardship policies, unit SOPs, Army regulations, and environmental laws and regulations.
- Make environmentally sound decisions in day-to-day activities.
- Identify environmental risks in individual and team tasks.
- Report spills of HM or HW immediately.
- Provide ideas through the chain of command concerning the

improvement of the unit's environmental protection program.

- Support the Army recycling program.

UNIT-LEVEL ENVIRONMENTAL TRAINING PROGRAM

4-10. An effective environmental protection stewardship training program allows personnel to carry out their responsibilities without undue damage to the environment or to personnel safety. It is the responsibility of the Company Commander to ensure all personnel are trained on environmental hazards and the appropriate precautions for reducing or eliminating damage to the environment or risk to personnel.

4-11. All personnel should receive environmental awareness and protection training within 90 days of assignment and annually thereafter. All personnel will be trained to do their tasks in compliance with environmental laws and regulations. They must also respond properly to emergencies. All environmental protection and HM/HW training must be properly documented and kept on file in the operations/training office. Issues that should be addressed in the unit's environmental protection training program are:

- HM management
- HW management
- HAZCOM
- Pollution prevention
- HAZMIN
- Spill prevention and response
- Recycling program

ENVIRONMENTAL PROTECTION ISSUES

4-12. **Hazardous Material Requisitioning.** The HM/HW Coordinator will maintain an up-to-date list of all the unit's hazardous materials, corresponding manuals, and documents. The unit's inventory should be kept as small as possible to reduce potential for incident. The least amount of hazardous or potentially hazardous material needed to do the task should be requested.

4-13. **Hazardous Material Storage.** Storage of hazardous materials can create safety hazards and extended term storage may lead to environmental hazards. Hazardous materials should be stored in their original or approved containers. All containers must be clearly labeled with the appropriate MSDS information. An MSDS sheet should be kept in the appropriate hazard communications manuals. HM should be used on a first-in first-out basis. Surplus quantities of HM, which need an extended period of storage, should be turned in.

4-14. **Hazardous Material Turn-In.** Store all POL products with secondary containment. To stop spillage outside the immediate area, construct berms that can hold one and one-half times the volume of the largest container stored in the area. Store all HM and HW so that they are protected from the elements to maintain container integrity. Inspect all containers for

leaks and for incomplete, unreadable, or out-of-date labels weekly. Inspect HW weekly. Document results of the inspection on a log and make them accessible to federal, state, or local inspectors. Inspection logs should contain the following:

- Description of waste
- Location
- Quantity
- Date accumulation started
- End of 90-day period
- Date removed to DRMO or other agency
- Remarks (condition of containers)
- Inspector's printed name, signature, and date of inspection

4-15. DRMO can provide guidance for local turn in of HW and unused HMs. All HW awaiting turn-in should be documented using an accumulation log. The log will give the date the container was opened, date and quantity of each addition to the container, name of the person adding HW to the container, the date the container was filled or closed, and the date of turn-in to DRMO or other authorized agency. All turn-in documents for HM and HW and the accumulation logs for HW should be kept on file by the unit for two years.

4-16. **Hazardous Waste Accumulation.** Place all accumulation of HW on a nonpermeable bermed hardstand, label it, and locate it 50 feet or more from any building. Protect it from the elements. Used greases, solvents, brake fluids, hydraulic fluid, antifreeze are examples of substances that should be stored in separate containers. To safeguard against spills and prevent water from entering the containers, keep them (drums, cans, or tanks) closed except when depositing waste. If threaded caps on 55-gallon drums are missing, replace them through the PLL.

4-17. As a rule of thumb, enough headspace should be allowed in the containers to prevent overflow from the expansion. Table 4-1 gives the headspace.

Table 4-1 Headspace for Containers

Container	Headspace (Inch)
5-gal can	1½ to 2
55-gal can	3 to 4

4-18. To be accepted for turn-in, the waste material must be in a safe, nonleaking, durable container. Leaking containers can be overpacked in steel removable head drums. Leaking containers of liquids must be packed in absorbent material. A leaking 55-gallon drum may be over packed in an 85-gallon drum. The absorbent material must be able to soak up all of the

liquid contents of the drum; therefore, 6 inches of absorbent must be on the bottom and top of the interior container, with at least 2 inches along the sides. Leaking containers of nonliquid hazardous waste may not need to be over packed with absorbent material. Many liquids, such as battery acid, cannot be packed in steel containers.

4-19. **Spill Response.** A reportable spill is one that involves any amount of hazardous material which may harm the environment or personnel. The hazardous materials most commonly associated with FP are fuel, oil, hydraulic fluid, grease, solvent, graywater, and blackwater. While other potentially hazardous substances exist, these are the most prevalent and require planning to effectively manage.

4-20. In areas where HM are used or stored or where HW is stored, appropriate supplies, equipment, and personal protective items should be easily available to allow an immediate response to any spills or accidents. Refer to the MSDS for a specific product or contact the HW/HM section of the DRMO for guidance on the spill response items and equipment required to safely respond to a potential spill.

4-21. If a hazardous spill occurs, available or appropriate personnel should immediately take the following steps:

1. Ensure your safety and the safety of those around you before acting.
2. Evacuate the area, if necessary
3. Report the spill to your supervisor. Sound the alarm or give verbal warning. Have someone call the fire department if the spill is something you can not handle safely.
4. Extinguish smoking materials and all other sources of ignition.
5. Take personal precautions as detailed on the MSDS for the material spilled.
6. Stop the leak or flow, if possible (shut off valves, tip drums, plug holes).
7. Contain the spill by using absorbent material. Make dams to prevent materials from spreading or entering water or storm drains.
8. Clean up material with a nonsparking shovel or broom. Place the residue in a serviceable container with lid, marked “Hazardous Waste - Contaminated Absorbent.” Check with the ECO for proper disposal.
9. If the spill resulted from a leaky container, transfer the product to a serviceable container. Label the container as follows:
   a. For fuel, oil, or hydraulic fluid spills label the container “POL Spill Residue.”
   b. For flammable liquid spills, including solvents, paints, paint thinners, and alcohol, label the container “(name of liquid) Spill Residue–FLAMMABLE.”
   c. For acid spills, label the container “(name of acid) Spill Residue ACID”
10. Store the container in the HW area while awaiting turn-in.

11. Turn-in to DRMO or other authorized agency

SECTION II – SAFETY

PROMOTING SAFETY AWARENESS

4-22. Safety in the field is not all common sense. Soldiers should be encouraged to continually conduct their work safely and to assist others in working safely. Leaders must be the example. They must train soldiers in the techniques and procedures for working safely and avoiding unnecessary accidents or injury. ARs 385-10 and 385-40 gives information on the Army's safety program, and FM 21-11 outlines actions to take if an injury occurs.

4-23. The commander sets up procedures to identify all personnel performing safety in their job. He must also ensure that their job descriptions clearly show these responsibilities. All supervisors and soldiers will receive safety training. Supervisors should be trained to recognize and eliminate hazards and to develop other required skills to implement the Army's safety program to the working level. Soldiers will receive specialized job, safety, and health training. This training will include OSHA criteria and the hazards associated with any materials or operations in the workplace.

LIFTING HAZARDS

4-24. The setup, operation, and dismantling of the FP module is labor intensive. It requires personnel to do a large amount of lifting and bending. Many items associated with the module, such as the M80 water heaters or the SEP, weigh in excess of 400 pounds and require a forklift or a minimum of a 6-man lift to position. The erection of the TEMPERs require excessive amounts of bending and lifting. If done improperly, this may affect the health and safety of personnel. Supervisors should ensure all soldiers use proper lifting techniques and body mechanics when setting up, operating, and dismantling the FP module. Soldiers should be tasked in teams suitable to the lifting needs of the task.. Forklifts and other equipment should be used whenever possible to reduce the risk of personnel injury.

ELECTRICAL HAZARDS

4-25. Each FP subsystem or structure uses electrical power. Electricity in field conditions presents unusual safety hazards which must be managed to prevent personnel injury or death. To prevent electrical shock, each subsystem and structure should be thoroughly grounded using earth ground. The proper electrical grounding rods are given in the FP containers. Electrical system grounding should be inspected periodically to ensure proper grounding is constantly maintained for the electrical systems of all subsystems and structures.

4-26. Electrical cables should be inspected periodically for cuts, abrasions, and connectivity. Power should be removed from cut or abraded cables

and the cables should be repaired or replaced. Field conditions may require electrical cables to lay in mud or standing water. If possible, use sandbags and other nonconductive materials such as wood may be used to raise cables. If needed, cables may also be buried to help move equipment and personnel, and prevent damage or electrical shock.

4-27. A soldier should NEVER be allowed to work on electrical equipment with power applied. Soldiers should remove electrical power, disconnect the power source, if necessary, and tag out the power source until all repairs are complete. Soldiers should also be encouraged to use the buddy system whenever performing work on electrical equipment.

EXPOSURE TO HAZARDOUS MATERIALS OR WASTE

4-28. FP uses and generates hazardous material and waste which is dangerous to personnel. Personal protective equipment should be available for use.

4-29. FP uses a great amount of fuel to power the tactical generators and organic vehicles and equipment. Fuel is a personnel hazard in the form of contact, flammability, ingestion, and inhalation. It should always be handled with care. Fuel storage areas should be clearly marked and designated as "no smoking" areas. These markings should also be included in the languages of the host nation. Proper grounding procedures should be used whenever transferring fuel from one item to another. Fuel storage facilities or containers should always be properly grounded.

4-30. Fuel also presents a danger in the form of carbon monoxide. Expended fuel produces carbon monoxide gas which if breathed for a long time can cause injury or death. Ensure engine exhausts are appropriately vented into outside air. Also, ensure that soldiers are not permitted to work in unventilated areas where carbon monoxide gas may be present.

4-31. Wastewater generated from the operations of the 12-head shower and the containerized batch laundry are considered graywater. Graywater contains detergents, bleaches, and other substances which may be hazardous to personnel. It is a personnel hazard in the form of contact and ingestion. Every effort should be made to eliminate or reduce exposure to graywater. If soldiers must work with components containing graywater, appropriate personnel protective equipment should be worn. If a person comes in contact with graywater, he should thoroughly flush the soap and potable water.

4-32. The containerized latrine uses internal storage tanks to contain human wastes. Blackwater is a personnel hazard in the form of contact, ingestion, and inhalation. It is a hazardous waste. Soldiers who must work with items containing or contacting blackwater should wear appropriate personal protective equipment to reduce risk. If they come in contact with blackwater, they should thoroughly flush the exposed areas with soap and potable water. For extreme exposure, medical attention should be sought immediately after decontamination.

4-33. FP uses highly chlorinated water to sanitize the potable water subsystems before it is dismantled. Highly chlorinated water is toxic to

personnel. It should be considered hazardous waste. Highly chlorinated water presents a hazard to personnel in the form of contact, ingestion, and inhalation. Soldiers that work with items containing or contacting highly chlorinated water should wear appropriate personal protective equipment to eliminate or reduce risk. If a person comes in contact with highly chlorinated water, they should thoroughly flush the exposed areas with soap and potable water. For extreme exposure, medical attention should be sought immediately after decontamination.